

OFFICE OF NORTHERN TECHNOLOGY
DIVISION OF POLICY DEVELOPMENT
AND PLANNING
OFFICE OF THE GOVERNOR
POUCH 'AD'
JUNEAU, ALASKA 99803

A HOUSE FOR BETHEL

AN ENERGY EFFICIENT HOME
FOR NORTHERN REGIONS

DESIGNED AND BUILT BY
THE KUSKOKWIM
COMMUNITY COLLEGE
OF BETHEL, ALASKA

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FOR MORE INFORMATION ON
SPECIFIC TECHNIQUES USED
IN BUILDING A HOUSE FOR
BETHEL, WRITE TO:

- MTEC DIVISION
KUSKOKWIM COMMUNITY
COLLEGE (KCC)
P.O. BOX 368
BETHEL, ALASKA
99559
907/543-2965

TO OBTAIN A 35mm SLIDE/AUDIO TAPE
SHOW, FILM STRIP, OR 3/4" VIDEO
CASSETTE ON A HOUSE FOR
BETHEL, WRITE TO:

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A HOUSE FOR BETHEL.

CAN RURAL ALASKA AFFORD AND ACHIEVE ADEQUATE WARM HOMES IN SPITE OF THE INCREASING SEVERITY OF THE "ENERGY CRISIS", INFLATION, AND THE RISING COSTS OF CONSTRUCTION?

KUSKOKWIM COMMUNITY COLLEGE STAFF AND STUDENTS SAY "YES".

KCC'S ANSWER LIES IN THE APPLICATION OF SPECIAL TECHNIQUES GOVERNED BY A CONTROLLING PHILOSOPHY OF RESOURCE MANAGEMENT.

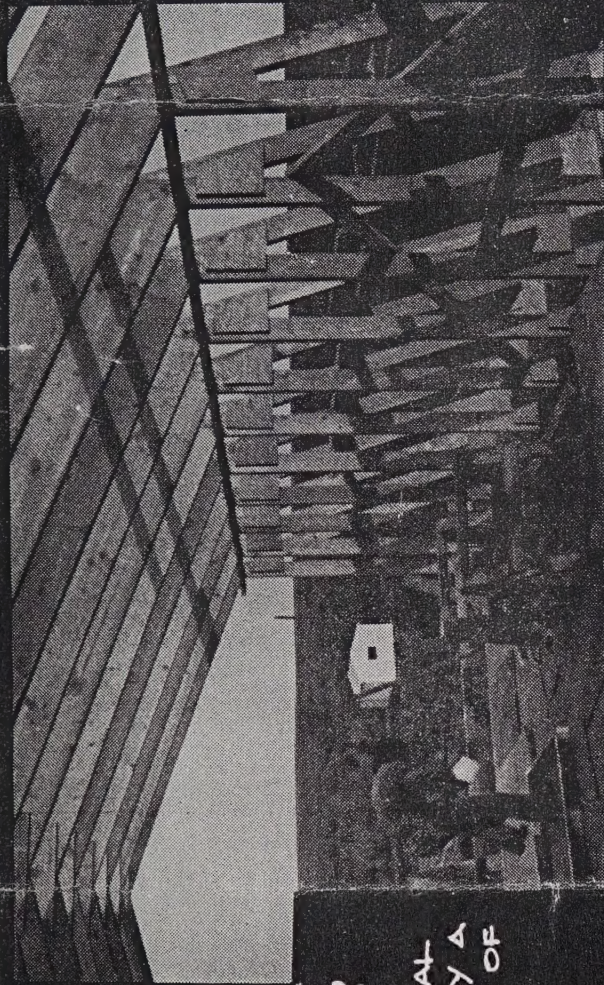
THEY CALL IT --

LOW ENERGY TECHNOLOGY

LOW ENERGY TECHNOLOGY MEANS THAT ALL PHASES OF HOME CONSTRUCTION, HEATING, AND OCCUPANCY MUST CONSIDER ENERGY EXPENDITURES INVOLVED VERSUS USEFUL ENERGY RETAINED. IT IMPLIES THAT SIMPLICITY AND EFFICIENCY ARE COMPLEMENTARY APPROACHES TO PROBLEM SOLVING. IT DEMANDS THAT SAVINGS INVOLVE NO SACRIFICE OF QUALITY.



WARM SILLS WITH INSULATION WRAP AROUND



LABOR SAVING TRUSS DESIGN

TECHNIQUES: A SAMPLING

#PROBLEM: HEAT LOSS THROUGH WALLS DUE TO SOLID WOOD STUDS, LOWERING OVER-ALL WALL INSULATION EFFICIENCY.

#SOLUTION: BUILD A WALL WITH NO WOOD PATHS FROM THE INSIDE TO THE OUTSIDE. USE TWO 2x4s, OFFSET FROM EACH OTHER FOR AN 8-INCH "DOUBLE WALL." RESULT, INCREASED INSULATION EFFICIENCY, LESS COST THAN FOR A CONVENTIONAL 8-INCH WALL.

#PROBLEM: HEAT LOSSES THROUGH SILLS AND CORNERS.

#SOLUTION: WRAP THE INSULATION AROUND THE JUNCTIONS BETWEEN FLOORS AND WALLS. USE HOLLOW CORNERS, FILLED WITH INSULATION.

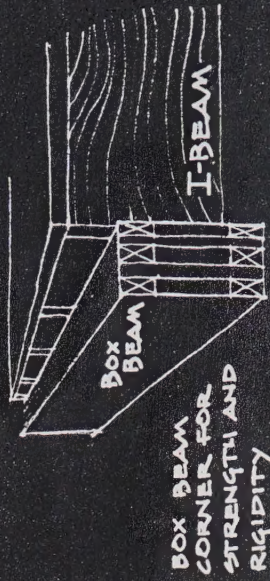
#PROBLEM: SHIFTING FLOORS, STICKING DOORS, WALL AND CORNER CRACKS DUE TO UNSTABLE FOUNDATIONS IN

PERMAFROST AREAS.

#SOLUTION: BUILD THE STRUCTURE LIKE A SHIP. INTEGRATE THE FLOOR AND FOUNDATION INTO A SINGLE, RIGID, MONOLITHIC ENTITY WITH ALL COMPONENTS ADDING STRENGTH TO WHOLE UNITIZED CONSTRUCTION.

#PROBLEM: HEAVY STRUCTURAL TIMBERS ARE EXPENSIVE TO PURCHASE AND COMMAND PREMIUM SHIPPING RATES.

#SOLUTION: ASSEMBLE LIGHTER, STRONGER, LESS EXPENSIVE "BOX BEAMS" AND "I-BEAMS" OF COMMON PLYWOOD AND 2x4s. THE FINISHED PRODUCTS ARE SUPERIOR, STRUCTURALLY, AND COST LESS.



NOT ALL OF THESE PROBLEMS ARE UNIVERSAL THROUGHOUT ALASKA, BUT, IF YOU ARE THINKING OF BUILDING A HOME OR OF HAVING ONE BUILT, THERE IS AN APPROACH THROUGH LOW ENERGY TECHNOLOGY THAT CAN SAVE BOTH CONSTRUCTION AND OPERATING COSTS AND HELP CONSERVE OUR RESOURCES OF FUEL AND FOREST.

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